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**Abstract**

The present invention relates to a demodulation structure and method for downconverting and demodulating a digitally modulated signal  $S_0$ , with a local oscillator means (1; 5; 8) for providing a local oscillator signal  $S_{lo}$ , a mixer means (2) for mixing said local oscillator signal  $S_{lo}$  and said digitally modulated signal  $S_0$  in order to obtain a mixed signal, a lowpass filter means (3) for lowpass filtering the mixed signal from the mixer means (2) and an analog-to-digital converting means (4) for converting the filtered signal from the lowpass filter means (3) into a downconverted and demodulated digital signal  $S_1$ , whereby the local oscillator signal is set in respect to the modulated digital signal so that the downconverted and demodulated digital signal output from the analog-to-digital converting means comprises two serially arranged information parts.

The present invention provides a demodulation structure and method with a very simple structure and essentially improved amplitude and phase imbalances.

(Figure 1)